Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554



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| In the Matter of | ) | |
| | ) | |
| Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them | ) | |
| | ) | |
| and | ) | PR Docket No. 92-235 |
| | ) | |
| Examination of Exclusivity and Frequency Assignment Policies of the Private land Mobile Radio Services | ) | |

**PETITION FOR RECONSIDERATION AND CLARIFICATION**

Hewlett-Packard Company ("HP"), by its attorneys, hereby requests the Commission to reconsider certain elements of its Second Report and Order[1] in the above-captioned proceeding, as they relate to the continuing need, clearly recognized by the Commission, to develop a plan to protect low power operations in the 450-470 MHz band.

As set forth below, HP urges the Commission to take a more direct role in developing a solution to this problem, instead of leaving resolution solely to the frequency coordinators. Further, until a low power plan is developed, HP urges that it is premature to establish periods for migrating or interim rules pending such migration. Finally, HP asks the Commission to clarify that until low power issues are resolved, high powered operations on the former low power offset channels will not be permitted.

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[1] Second Report and Order, Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them, PR Docket No. 92-235, FCC 97-61 (Mar. 12, 1997), at ¶ 63.

**A. UNDERLYING PUBLIC INTEREST DETERMINATIONS MUST BE MADE BY THE COMMISSION, AND SHOULD NOT BE LEFT TO THE FREQUENCY COORDINATORS.**

HP urges the Commission that the resolution of issues regarding low power operations in the 450-470 MHz, particularly as related to very low power medical telemetry operations, requires the Commission to take a more direct role in the process. There are public interest determinations to be made that cannot and should not be delegated to others. First, will the ability of hospitals to monitor heart and other vital functions of ambulatory, but still seriously ill, cardiac patients be protected, or will such critical medical care effectively be denied the frequencies needed to operate? Second, if the only way to preserve necessary frequencies for medical telemetry use and to make available spectrum for new high (and low power) operations is to require some migration of existing high and low power uses, should such migration be required, or are the costs to existing users too great to outweigh the benefits?

The Commission has thus far left it to the frequency coordinators to develop a solution for accommodating low power operations in the band. The Commission has also stated that it will "revisit" the issue if an industry consensus solution cannot be reached.[2] As discussed in greater detail in the accompanying letter to Daniel Phythyon, Acting Chief of the Wireless Telecommunications Bureau, it is now clear that, at least in the absence of more direct Commission involvement, such an industry consensus cannot be reached. That is not due, in HP's judgment, for want of trying by any interested party. Rather, with all due respect to the frequency coordinators, HP urges that these are not decisions that they can or should be asked to make.

HP recognizes the vital assistance that these coordinators provide in helping to find places for new uses of the band without interfering with existing operations. But, ironically in the context of a proceeding that is supposed to increase efficient use of the band, the coordinators seem to be put in the position of deciding how much ambulatory cardiac care is enough. Should hospitals make do with fewer channels? Should hospitals existing investment in such cardiac monitoring systems be lost?

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[2] Id. at ¶ 64.

These are questions that HP respectfully suggests should be for the Commission, not the coordinators, to address.

Beyond the public policy issues at stake, there are other practical reasons why the issues surrounding low power medical telemetry are not ones that the coordinators are in a position to resolve. In particular, unlike other situations where various coordinators effectively represent the concerns of the various industries, there is no coordinator who represents very low power medical telemetry users. As recognized by the Commission, because their very low power operations are not subject to coordination requirements, the frequency coordinators don't even have information about where medical telemetry operates or how intensively the band is used.[3]

Further, while an efficient solution to the problem might require both low power and high power operations to relocate in the band, the coordinators, who do represent the many other users of the band, are reluctant to suggest that any high power operations be migrated.[4] For its part, HP is very sympathetic to the argument that the investment of users (including hospitals) in existing frequencies should not be stranded and that no migration or at least none that does not allow for the fair amortization of existing investment should be required. But if there is to be no migration of high power operations to other channels, then there appears to be no place for low power medical telemetry operations to go.

**B. NEITHER A TIME PERIOD FOR MIGRATION NOR INTERIM RULES TO BE APPLIED DURING A MIGRATION PERIOD CAN BE SENSIBLY ESTABLISHED UNTIL A PLAN FOR ADDRESSING LOW POWER ISSUES IN THE BAND IS CREATED.**

The time period that will be needed for migration by systems that are asked to relocate in the band cannot be sensibly established until one knows the scope of the migration that will be required. The seven months suggested to the Commission by the Land Mobile Communications Council ("LMCC"), might be practical if most systems will stay where they are and if those that are required to move are moving to spectrum that does not itself have to be cleared of incompatible uses. But it will be

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[3] Id at ¶ 63.

[4] In HP's judgment, an efficient solution would also result in the consolidated use of frequencies dedicated to very low power by commercial and public safety users, but establishing such a cross-category part of the band will also require Commission action.

utterly impractical if tens of thousands of units need to be changed or if clearing spectrum requires a multiple step process.

Further, other factors need to be considered, including the cost of the relocation and whether existing equipment can be adjusted or whether entire new systems would have to be installed with existing units made obsolete. In this regard, HP notes that the LMCC proposal appears to assume that none of its higher powered user clientele would be required to relocate. Were high power users also required to relocate, HP believes that LMCC might give greater consideration to the practical difficulties of changing the frequencies of potentially tens of thousands of individual units, the costs of doing so, and most of all, the need to first designate the channels to which existing users will migrate.

HP also asks the Commission to reconsider its decision to allow high-power operations to commence on previously designated low power channels before a period for migration has been concluded, if a frequency coordinator attests that such use will not impact any low power systems. The basic problem with this approach is, as the Commission elsewhere recognizes, that the coordinators don't know where such low power use occurs, and therefore have no basis for making such a certification. Furthermore, the draft frequency coordination procedures that Motorola has provided to HP do not directly address the challenges involved in coordinating adjacent high- and very-low power licenses.[5] Lastly, licensing high-power users on these channels before a low-power plan has been developed may make it more difficult to implement such a plan, which may well involve those channels.

### C. THE RULES SHOULD NOT GO INTO EFFECT UNTIL LOW POWER ISSUES ARE RESOLVED.

Until a low power solution is reached and sufficient time allowed for existing systems to migrate to other parts of the band is given, any new high power operation on the former low power offsets would prevent low power medical telemetry operation on the same channel (or on adjacent 6.25 kHz channels) at considerable distances. That is why in 1995 the Commission placed a freeze on the authorization of

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[5] See Second Report and Order, supra, at ¶ 43.

high powered systems on these offset channels.[6] The conditions that supported the freeze remain unchanged.

The Commission recognizes the problem in stating that it will revisit the low power issue if an industry consensus position is not reached. However, at least by its terms, the Second Report and Order will go into full effect whether a consensus plan is reached or not. HP urges the Commission to clarify that this will not be the case.

**D. CONCLUSION: THE ISSUE OF LOW POWER USE IN THE BAND MUST BE CONFRONTED BY THE COMMISSION.**

Over a series of proceedings, from notices of inquiry and rule making to orders and further orders, the Commission has addressed, one by one, many exceedingly difficult issues in this proceeding. But, seemingly at each juncture, the issue of low power use has been left for further resolution, and most recently for resolution by the coordinators.

HP respectfully suggests to the Commission that, at this point, the matter of low power requires its direct attention. Further, while HP believes that industry negotiation remains an important tool in addressing the problem, HP urges that for such negotiation to be fruitful, representatives of the Commission must be at the table. Accordingly, HP respectfully requests that the Commission bring the industry negotiations that it has mandated more directly under its auspices through a

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[6] See Public Notice, Freeze on the Filing of High Power Applications for 12.5 kHz Offset Channels in the 450-470 MHz Band (PR Docket 92-235, FCC 95-255), DA 95-1771, (released Aug. 11, 1995).

negotiated rulemaking proceeding or such other process that the Commission deems appropriate.

Respectfully submitted,

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May 19, 1997

**BY HAND**

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**Re: Failure to Develop Consensus Industry Plan for Low-Power Users of the Private Land Mobile Radio Bands**

Dear Mr. Phythyon:

Hewlett-Packard Company ("HP") submits this letter to report on its efforts to participate in the development of an industry consensus regarding low-power Private Land Mobile Radio ("PLMR") operation in the 450-470 MHz band under Part 90 of the Commission's rules. As the Commission is aware, hundreds of hospitals use tens of thousands of very low-power telemetry transmitters to monitor electrocardiograph ("ECG") and other vital information of hospitalized cardiac patients who are able to walk within their hospital units. These transmitters have long operated on the former 12.5 kHz low-power offset channels in the Business Radio Service within the 450-470 MHz band. Some hospitals use over 200 channels at any time, and as hospitals consolidate, that number is continuing to increase.

To provide greater flexibility, the Commission in the PLMR "refarming" proceeding, PR Docket No. 92-235, has eliminated the special status of the 12.5 kHz offset channels and has sought in alternative ways to protect the low-power users of this band. The *Second Report and Order* on Refarming,[1] released this spring, required the frequency coordinators to develop a consensus plan for low-power operations

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[1] Second Report and Order, Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them, PR Docket No. 92-235, FCC 97-61 (Mar. 12, 1997), at ¶ 63.

within six months of the publication of the order in the Federal Register. If a consensus plan could not be developed, the Commission would revisit the issue itself.

**A. EFFORTS TO DEVELOP AND INDUSTRY CONSENSUS PLAN HAVE FAILED.**

Very low-power medical telemetry has not been coordinated for a number of years, and frequency coordinators are unfamiliar with the issues involved in coordinating such very low-power users. The Private Wireless Division therefore encouraged representatives of the medical telemetry industry to participate in the development of the industry consensus. HP then contacted representatives of the Land Mobile Communications Council ("LMCC") and Motorola, and held several meetings and telephone conferences with them. HP regrets to inform the Commission that an impasse has been reached.

**B. DIRECT COMMISSION INVOLVEMENT IN CRAFTING A SOLUTION IS NECESSARY.**

HP does not believe that the inability to achieve consensus indicates any bad faith on the part of the participants. Rather, it results from the fact that a solution would require the frequency coordinators to undertake functions very different from their traditional ones, involving a type of service with which they have little familiarity.

First, an efficient solution to the low-power issue presented by refarming will probably involve relocating some existing users, both high- and low-power, to other portions of the band. Relocating licensees has not been a traditional function of the frequency coordinators, and such relocation would impose significant costs on some of their customers, i.e., users. Representatives of the frequency coordinators appear reluctant to assume this role, and HP agrees that these decisions are not ones that the coordinators are or should be in a position to make.

Second, the strength of the frequency coordination process has been that different coordinators represent and are familiar with the needs of different types of users. The coordinators have then worked together to accommodate the industry groups that they represent. However, because of its small impact on other users, very low-power medical telemetry has not been subject to coordination requirements for some time. Consequently, there is no frequency coordinator who speaks for medical telemetry or even has current information about the location of the hospitals that operate medical telemetry transmitters or the number and frequency of the channels that each one uses.

For these reasons, the Commission should take a more direct role in this process. While HP believes that industry negotiation remains an important tool, representatives of the Commission need to be at the table. Accordingly, HP respectfully requests that the Commission bring the industry negotiations that it has

mandated more directly under its auspices through a negotiated rulemaking proceeding or such other process that the Commission deems appropriate.

### C. DEVELOPING AN EFFECTIVE LOW-POWER SOLUTION REQUIRES AN EFFICIENT ALLOCATION OF SPECTRUM WITH THE BAND; SIMPLY DECIDING WHICH LOW-POWER CHANNELS WILL BE ELIMINATED IS A ZERO-SUM GAME

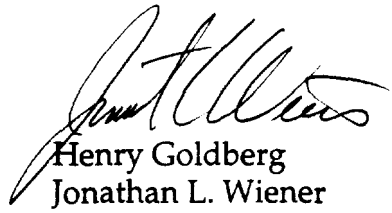
Over a year and a half ago, HP submitted to the Commission and circulated within the industry an outline of a proposal for addressing the requirements of medical telemetry and other compatible low-power users. A copy of this outline is attached to this letter. The basis of this outline was that refarming should not reduce the availability of usable channels to any existing group of users, and that if migration of existing users is necessary to ensure such availability, the entire burden of migration should not fall on any one group.

As HP has discussed with LMCC and Motorola, licensing high-power users on the former 12.5 kHz offset channels where medical telemetry and other low-power users operate, or on the new adjacent 6.25 kHz channels, will create interference that will make the channel unusable for medical telemetry. The nature of critical-care telemetry requires that signals be continuously received without interruption. To allow medical telemetry to continue to operate, power restrictions would have to remain on the former offset channels, and even more stringent power restrictions would have to be imposed on the adjacent 6.25 kHz channels. These restrictions would effectively retain a guardband on both sides of each individual channel used for very low-power telemetry and similar uses.

Because such guardbands would limit the efficiency of spectrum use, in effect retaining some of the characteristics of the old channel plan, HP proposed an alternative. If entire zones within the band were limited to very low-power use, then the need for a large number of such guardbands would be eliminated, making more efficient use of the spectrum for all users, as originally envisioned in the refarming proceeding. Such low-power zones would require some high- and low-power users to migrate to new channels, and therefore cannot be created overnight. To avoid undue hardship, the transition would require time for amortization of costs of migration to new channels, both on the part of high-power users, hospitals and other low-power users. The HP proposal suggested a way to create the low-power zones and migrate affected high- and low-power users gradually, without reducing the number of usable channels during the transition. However, as was mentioned before, migration raises issues that frequency coordinators are poorly positioned to address by themselves.

HP believes that its proposed framework provides a reasonable basis for all parties to work together, and it urges them, with the Commission's active involvement, to negotiate the details of an efficient solution to the issue of low-power use, rather than simply decide who gains spectrum and who loses.

Respectfully submitted,



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Hewlett-Packard Company
*Ex Parte Presentation*
September 29, 1995
PR Docket 92-235

# Outline of 450-470 MHz Proposal for Medical Telemetry

The following proposal is based on several basic principles:

- The number of usable channels available for medical telemetry should not be reduced. Reducing the number of channels available for medical telemetry would force hospitals to cut back on the number of telemetry beds that they currently use to monitor at-risk cardiac patients. Without a sufficient number of telemetry channels, hospitals would either have to cable these patients directly to monitors, reducing the opportunity for therapeutic exercise, or forego monitoring them at all. Furthermore, a reduction would be inconsistent with the Commission's position that refarming is designed to increase use of the spectrum, not cut back on current use.

- Because the number of telemetry channels in use varies greatly from hospital to hospital, a two-tier approach would allow for efficient and flexible spectral use. A small number of dedicated very-low-power channels would accommodate most medical telemetry and other very-low-power licensees. With this dedicated area, larger hospitals and medical centers would require fewer additional channels, so more channels could be operated at higher power throughout the 450-470 MHz band, while still giving reasonable assurance of the availability of an adequate number of channels that are usable by medical telemetry on a secondary basis to supplement the channels available in the dedicated very-low-power area.

**Elements of the Proposal**

- Maintain the low-power status of offset channels where medical telemetry now operates, including prohibition on licensing the adjacent 6.25 kHz channels, until the following steps are completed.

- One-for-one swap of existing low-power offset channels for new channels in a dedicated contiguous 2.5 MHz very-low-power region (<120 mW, with limitations on non-medical telemetry use within hospitals) as quickly as space within the very-low-power region is made available. Note that the entire region need not be

cleared of all >120 mW licensees before the swapping could begin: a new channel could be swapped in provided that no >120 mW licensee was closer than 25 kHz. HP and SpaceLabs would submit the least frequently used channels to the frequency coordinator for swapping.

- After the very-low-power region is established, the remaining offset channels still used for telemetry could be relicensed for high-power use and medical telemetry would be permitted to use all channels in the 450-470 MHz band on a secondary basis.

## CERTIFICATE OF SERVICE

I hereby certify that true and correct copies of the foregoing Petition for Reconsideration and Clarification and the associated letter to David Phythyon, Acting Chief, Wireless Telecommunication Bureau were sent by hand and first-class mail, postage prepaid, this 19th day of May, 1997, to each of the following:

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